SAT Start flow:
- CPackageRec
- SAT Start
- Continue
- CPkgAddrRec — Any SAT clients? (N → Continue)

Note: There are two satellite related state flags: Submitted to SAT Agent; Broadcast by SAT Agent

- Package marked as *Submitted to SAT Agent*? (Y → Query if package files have all been broadcast at least twice)
- SAT Agent
- Query if package files have all been broadcast at least twice
- SAT Agent — Submit referenced files to SAT Agent
- All files transmitted? (Y → Mark package as *Broadcast by SAT Agent*; N → Continue)
- Mark as *Submitted to SAT Agent*
- Mark package as *Broadcast by SAT Agent*
- Continue

CONFIRMATION Start flow:
- CPackageRec
- CONFIRMATION Start
- CPkgAddrRec — Build list of unconfirmed clients
- Mark package as Delivered
- Any unconfirmed clients? (N → Mark package as Delivered → Continue)
- Submit terrestrial-only client phone numbers to Tickler
- Continue
- SAT Tickle timeout? (Y → Submit SAT client phone numbers to Tickler)
- Tickler
- Submit SAT client phone numbers to Tickler
- Ground Ship timeout for package?

Note: Ground Ship gets the latest address list from the Web page which will display/print the list of clients that have not confirmed the package or have no electronic delivery capabilities.

- Forward package to Ground Ship.
- Tickle Ground Ship phone number for immediate pickup.

FORWARDING Start flow:
- CPackageRec
- FORWARDING Start
- CPkgFileRec — Format an address-less client Envelope for the package
- Forward to all terrestrial client addresses for this package that have not been forwarded this package (and mark them as forwarded)
- CPkgAddrRec
- Package marked as SAT delivered? (Y → Forward to all SAT client addresses...)
- Continue
- Forward to all SAT client addresses for this package that have not been forwarded this package (and mark them as forwarded)

Note: If FAX value-add option is set, then submit Traffic Instructions to FAX server.

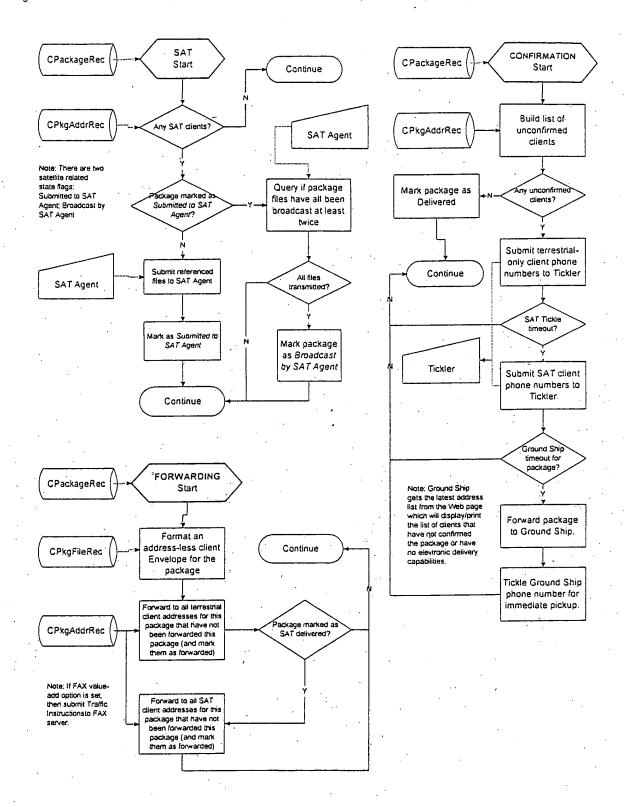Exhibit J

5754 Pacific Center Blvd. Suite 203
San Diego, California 92121
(858)452-4920 tel (858)452- 3095 fax

Starguide Digital Networks

EXHIBIT K

Fax

To:	TODD JUNEAU	**From:**	LARRY FISH
Fax:		**Pages:**	5 + COVER
Phone:		**Date:**	
Re:		**CC:**	

☐ Urgent   ☐ For Review   ☐ Please Comment   ☐ Please Reply   ☐ Please Recycle

● Comments:

TODD,

I FOUND THESE DOCS IN MY FILES.

FIRST DOC IS A MEMO FAXED TO ME BY
JEFF DANKWORTH (PRESIDENT OF COMPANY),
AUTHORIZING HIRING FOR PROJECT
WHICH WAS SPECIFIED IN DOCUMENTS
DATED JAN 97. SECOND DOC IS
ORIGINAL CONCEPT CREATED IN ███ '96.
████████████, BUT FILE DATE
SHOWS 96 CREATION DATE. CALL IF
YOU HAVE QUESTIONS.

LARRY

Network Products Division
MUSICAM USA
WinDAX
Satellite and Wireless
Virtex Services Division
Musicam Express

To: Larry Fish   cc: Robert Peterson

From: Jeff Dankworth

Subj: New Hires For DaX Development

Date: February 16, 1997

Larry, the demo of the new DaX System was very impressive. I understand that the Musicam Express Sales people who saw it were also happy with the product.

Based on the schedule that you discussed with Rob, the timing of the project, and the organization of the development and user groups, it is my understanding that you will need one or two full time employees and one or two consultants for a period of time. Please proceed with the hiring as soon as possible.

You are obviously aware of the problems with the current version of the WinDaX system. I am sure you are also very aware of the importance of Musicam Express to StarGuide. Sales to Musicam Express is a substantial portion of StarGuide's revenue projected for 1997. Keeping this project on schedule, and meeting the requirements agreed to by the Musicam Express users and customers will help us meet this projection. By you overseeing the project, regardless of any titles of any other participants in the project, I am confident it will very successful.

Please keep us informed and let us know what we can do to help.

Thanks.

Jeff.

Rob, here's some ideas that I had about the Musicam Express architecture. I'd like to bring them to Dave at an appropriate time with your permission. Remember that these are only opinions and certainly not based upon hard numbers. I'd certainly like to see if some of them can fly. Thanks

I've broken up the picture into several different pieces, sort of the way that I've thought about the project for the last couple of weeks.

- What makes the system today different than the one we thought about last year?
- What are some other objectives that would be nice to achieve along the way?
- What architecture could we choose to satisfy most of our short term and all of our long term objectives?

Several key system requirements have come into existence since the days of Dax version 2- that was the concept that Paul had presented to Mel and Infinity. The most significant elements are:

- Not everybody can get satellite reception. In fact, the most significant sites for spot distribution probably can't get satellite. So it appears as though there would have to be a terrestrial distribution component that was not in the original Dax plan.

- In addition, there must be positive confirmation, not just a high probability that a spot actually gets delivered. Therefore, there must be a wired connection to actually verify delivery. Once again, there is a terrestrial or wired component that was not in the original plan.

- Another element that came from Patrick and Keith was the local distribution model. Of course the original Dax model was a centralized broadcast distribution system. If files are to be distributed locally, they would have to find their way to a central hub for satellite distribution. These local distributions directed to only a few sites would have a tendency to consume the entire broadcast channel not matter how large that the channel could be made. It might be a good idea to be able to distribute locally in a point to point fashion without consuming the broadcast channel. In effect, a full mesh terrestrial connectivity would be required for distribution in this fashion, bypassing the satellite altogether. Once again, a terrestrial element is present that was not part of the original dax concept.

- A fairly new system requirement comes via the Western Media facility in Ohio. How does this facility become the safety net for the distribution system, producing everything that can not or could not be delivered via the satellite or terrestrial distribution system. This is almost the most important element because it is this system that allows Musicam Express to get rolling before the entire network is fully deployed.

So, those are the new technical issues. But there are also some logistical and business issues that are equally important. Here are some other objectives that would also be nice to address.

- Right now the New Jersey group is leading the charge. Dave will be dependent upon Tim and company for a while until he can get his arms around the development and the technology. In my opinion, it would be a benefit if a system architecture could be chosen such that the Tim's technology could be subordinate to Dave's work. That is, let the satellite system complement the work that Dave does but not necessarily lead it.

- Build a system on standard protocols and hardware elements. This will help in interconnecting and growing the system without a lot of heartache. In addition, by building on standard protocols, interoperability with other networks will be made that much easier. We would be in a position to co-operate with other vendors if we maintain an open architecture.

- Build a system that is easily extensible. If a connection needs to be upgraded from low speed to high speed, or if a communications hub needs to be installed to reduce communications costs, this should be accomplished with a minimum amount of engineering while utilizing off the shelf components. This objective is in line with the one above.

- Build a system that can be operational as soon as possible and that additional cost saving, profit increasing elements can be folded in later.

- Similar to the point above, it's probably desirable if Wilmington is operational as soon as possible.

- Be able to provide low cost entry level solutions as well as high end, and presumably expensive systems.

- Build a system that is universally accepted by the broadcast industry by not only promoting spot distribution, but also a system that could be used to send other material as a service to the industry, i.e. a system capable of providing communications to radio ownership groups, news gathering organizations, etc.

So, I started thinking about the system requirements and also some of the short and long term objectives. It seems as though the biggest change from the original concept is the terrestrial network. Originally it didn't exist at all and now it seems as though it has to play a large part in the overall system. And in principal, the audio file distribution system isn't much different than a traditional e-mail system except that the files are probably

larger on average. So build a traditional internet like e-mail system where everybody has a mail-box. Anything showing up in someone's mailbox is for them. A centralized internet-like mail server would be relatively easy to implement. The communications requirements of even several hundred lines could be tamed by a super-duper off the shelf server. Producers could create spots, drop them off on the mail server and the audio would show up in the appropriate mail boxes.

But one thing that always bugged me about the previous/current Dax and DG distribution systems is that they rely upon a 'smart' centralized distribution system. It would have to know what spots needed to go to which locations, when it needed them by, and how to most efficiently schedule the bandwidth based upon these requirements. So I thought it would be nice to get away from this model since I'm not that smart. Since we we're looking at an e-mail model, why not have the affiliates periodically dial into a central location to check their mail, similar to network mail servers. This decentralizes the intelligence and greatly simplifies the distribution system. So instead of feeding affiliates, let them feed themselves. If there is a large geographic concentration of affiliates, create a communications hub capable of receiving multiple calls where the hub has a high speed connection back to the central hub. So the system topology can be modified for cost reduced line charges while utilizing off the shelf components. In addition, because each spot is 'electronically hand delivered', the confirmation of delivery comes automatically.

If the mail analogy is carried a little further, even those sites that do not have a dax can and should have a mailbox. These mailboxes can be serviced directly by Western Media in Wilmington. It seems that this element could be implemented in a short amount of time without much trouble.

I thought originally that most of this could be done with dial-up modems and some maybe ISDN. Even though it would cost more (I figured 10 cents/minute for a 19.2 pots line) as compared to satellite, I figured that it would take around 5 minutes, or about 50 cents to download a 30 second spot. On the upside, it would definitely cost less for a pots line telco solution than an ISDN or satellite solution. But after speaking with you, it was clear that even a $2000 satellite receiver could pay for itself in the first year. So satellite must be integrated into the system..

Satellite transmission needs to be integrated as the primary distribution vehicle whenever possible but the terrestrial system still needs to provide a fallback. I thought by extending the mailbox concept a little further, satellite could be integrated. Imagine splitting each mailbox into a terrestrial side and a satellite side. Initially if the destination is equipped, files would first be stuffed into the satellite side of the outbound mailbox. The satellite distribution system would scan mailboxes for material in the satellite partition. A particular spot, which may show up in multiple satellite partition mailboxes, would be transmitted to a group of receivers. After a single transmission or a specified number of transmissions over time, the spot would then transition from the satellite side to the terrestrial side of the mailbox. When the affiliates periodically dial in to collect mail,

they will first acknowledge anything that came via satellite which will remove those files from their mailboxes. After that, any files that failed satellite transmission or any other files still in the mailbox would then be downloaded, acknowledged and removed from the mailbox.

So the terrestrial network will provide backup to the satellite network. If a file is not received via satellite, it can be picked up via the terrestrial network. At the same time, Wilmington can provide one additional level of distribution backup. Wilmington can scan the mailboxes for mail which was not delivered electronically via the satellite or terrestrial network. If a mailbox file has not been delivered, Wilmington can duplicate the spot and send it via Airborne.

That's about it. Obviously the system would be more complex than what is described here. But I think the interesting points in a nutshell are this.

- The terrestrial system could be made to operate in a short amount of time. Wilmington could be online shortly thereafter.

- The terrestrial system could be completely architected and constructed by Dave and his gang. Dave would be in a position to dictate system requirements and interfaces of the satellite portion to Tim. Dave could take ownership of the network from day one and put Tim's development as secondary to the immediate success of the development.

Rob, I'd like to know what you think. Thanks